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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,179	03/05/2002	Handong Wu	NAIIP318	7494

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EXAMINER

DADA, BEEMNET W

ART UNIT	PAPER NUMBER
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2135

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/092,179

Applicant(s)

WU ET AL.

Examiner

Beemnet W. Dada

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/17/2007 has been entered. Claims 1, 12-14, 20 and 30 have been amended. Claims 1-9 and 12-35 are pending.

Response to Arguments

2. Applicant's arguments with respect to claim 1-9 and 12-35 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-9 and 12-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

5. Claims 1, 20 and 30 are directed to an intrusion detection system. The examiner respectfully asserts that the claimed subject matter does not fall within the statutory classes listed in 35 USC 101. The claimed steps do not result in a tangible result (i.e., **comparing** classified packets does not constitute a tangible result). Claims 1, 20 and 30 are rejected as being directed to an abstract idea (i.e., producing non-tangible result) [tangible requirement

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does require that the claim must recite more than a 101 judicial exception, in that the process claim must set forth a practical application of that 101 judicial exception to produce a real-world result, Benson, 409 U.S. at 71-72, 175 USPQ at 676-77]. Claims 2-9, 12-19, 21-29 and 31-35 depend from claims 1, 20 and 30 and are rejected under the same rationale.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1, 3-9, 13-19, 30 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaidya US 6,279,113 B1 in view of McRae US 6,970,462 B1.

7. As per claims 1 and 30, Vaidya teaches a method for detecting intrusion on a network, comprising:

storing signature profiles identifying patterns associated with network intrusion in a signature database [column 3, lines 27-38 and column 6, lines 35-42];

generating classification rules based on said signature profiles [column 3, line 65 – column 4, line 8];

receiving data packets transmitted on the network [column 6, lines 60-68];

classifying data packets having corresponding classification rules according to said generated classification rules [column 6, line 57 – column 7, line 10];

forwarding said classified packets to a signature engine for comparison with signature profiles [column 6, lines 63 – column 7, lines 5 and column 7, lines 11-21]. Vaidya further

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teaches classifying data packets according to classification rules [column 6, line 57- column 7, line 10] and performing a table lookup to select an action to be performed on said classified packet based on the classification, wherein one of the action is comparing said classified packet to at least a subset of the signature profiles (i.e., accessing the attack signature profile set and determining if the packet is associated with a network intrusion). Vaidya is silent on carrying out the classification by a first classification stage capable of classifying the data packets and a second classification stage capable of classifying the data packets received from the first classification stage. However, classification of data packets with multi-level stages is well known in the art, which has the advantage of enhancing the performance and efficiency of the system. For example, McRae teaches carrying out classification by a first classification stage capable of classifying the data packets on a first set of packet characteristics and a second classification stage capable of classifying the data packets received from the first classification stage based on a second set of characteristics [column 5, lines 24-59 and column 8, lines 62-column 9, lines 6]. McRae further teaches performing a table lookup to select an action to be performed on a classified packet based on a classification, wherein one of the action is comparing said classified packet to at least a subset of the signature profiles [column 5, lines 24-59 and column 8, lines 62-column 9, lines 6]. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of McRae within the system of Vaidya in order to enhance the performance and efficiency of the system.

8. As per claims 3-9, Vaidya further teaches classifying said packets according to at least one packet field into groups [column 9, lines 46-61 and column 7, lines 2-21].

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9. As per claims 13 and 14, Vaidya further teaches performing a table lookup to select an action to be performed on said packet based on its classification [column 7, lines 2-11 and column 9, lines 27-35]. Furthermore, McRae teaches performing a table lookup to select an action to be performed on said packet based on its classification [column 5, lines 24-59].

10. As per claims 15 and 16, Vaidya further teaches partitioning signatures into disjoint groups to define subsets of signature profiles [column 6, lines 27-42].

11. As per claims 17-19, Vaidya further teaches filtering received packets and capturing packets at a network analysis device [column 8, lines 40-55].

12. As per claim 31, McRae further teaches the method wherein the first set of packet characteristics includes at least one of a destination address, a protocol type and a destination port number [column 5, lines 24-59].

13. As per claim 32, McRae further teaches the method wherein the second set of packet characteristics includes at least one of packet type and a size [column 3, line 60-column 4, line 15].

14. As per claims 33 and 34, McRae further teaches the method wherein only the second classification stage remains in communication with a flow table for identifying an action to be taken with respect to the data packets [column 5, lines 24-59].

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15. As per claim 35, Vaidya further teaches the method wherein the classification rules are generated after filtering the data packets [column 3, line 65 – column 4, line 8].

16. Claims 20-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Copeland, III US Pub. 2002/0144156 A1 (hereinafter Copeland) in view of McRae US 6,970,462 B1.

17. As per claim 20, Copeland teaches an intrusion detection system comprising:

a signature classifier comprising a classifier operable to classify packets according to at least one packet field into groups [paragraph 0139, 0140 and 0165];

a flow table configured to support table lookups of actions associated with classified packets [paragraphs 0148, 0149];

a signature database for storing signature profiles identifying patterns associated with network intrusion [paragraphs 0020, 0153-0155]; and

a detection engine operable to perform a table lookup at the flow table select an action to be performed on said packet based on its classification, wherein comparing said packets to at least a subset of the signature profiles is one of the actions [paragraphs 0157 –0159 and 0163-0165]. Furthermore, Copeland teaches classifying data packets according to data packet information [paragraph 0139, 0140 and 0165]. Copeland is silent on a classifier comprising a first stage classifier operable to classify packets according to at least one packet field into groups and a second stage classifier operable to classify said packets within each of the groups according to packet type or size. . However, classification of data packets with multi-level stages is well known in the art, which has the advantage of enhancing the performance and efficiency of the system. For example, McRae teaches carrying out classification by a first classification

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stage capable of classifying the data packets on a first set of packet characteristics and a second classification stage capable of classifying the data packets received from the first classification stage based on a second set of characteristics [column 5, lines 24-59 and column 8, lines 62-column 9, lines 6]. McRae further teaches performing a table lookup to select an action to be performed on a classified packet based on a classification, wherein one of the action is comparing said classified packet to at least a subset of the signature profiles [column 5, lines 24-59 and column 8, lines 62-column 9, lines 6]. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of McRae within the system of Copeland in order to enhance the performance and efficiency of the system.

18. As per claims 21 and 22, Copeland teaches the system further comprising a data monitoring device having a capture engine operable to capture data passing through the network and configured to monitor network traffic, decode protocols, and analyze received data [paragraph 0137].

19. As per claim 23, Copeland further teaches a parser operable to parse, generate and load signatures at the detection engine [paragraphs 0142-0146].

20. As per claims 24, Copeland further teaches the system comprising an alarm manager operable to generate alarms [paragraphs 0162-0164].

21. As per claims 25 and 26, Copeland further teaches a filter configured to filter out packets received at the intrusion detection system [paragraphs 0139-0141].

22. As per claim 27, Copeland further teaches the flow table is a hash table [paragraphs 0149-0150]

23. As per claims 28 and 29, Copeland further teaches action options listed in the flow table include dropping the packet and generating an alarm [paragraph 0165].

24. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vaidya US Patent 6,279,113 in view of McRae et al. US Patent 6,567,408 B1 and further in view of Copeland US Pub. 2002/0144156 A1.

25. As per claims 2 and 12, Vaidya-McRae teach the method as applied to claim 1 above. Vaidya-McRae is silent on the method comprising dropping data packets without corresponding classification rules. However, Copeland teaches an intrusion detection system including dropping data packets without corresponding classification rules [paragraph 0165]. Both Vaidya-McRae and Copeland teach a network intrusion detection system. It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to employ the teachings of Copeland within the system of Vaidya-McRae in order to enhance the security of the system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beemnet W. Dada whose telephone number is (571) 272-3847. The examiner can normally be reached on Monday - Friday (9:00 am - 5:30 pm).

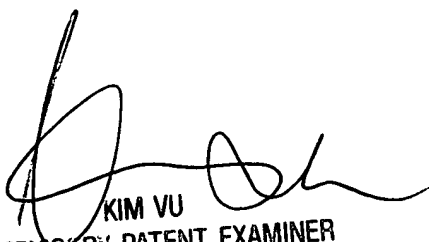
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Beemnet W Dada

February 16, 2007


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